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EXAMINER	
SWEARINGEN, JEFFREY R	

ART UNIT	PAPER NUMBER
2145	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	09/903,832	BORDER ET AL.	
	Examiner	Art Unit	
	Jason D. Cardone	2145	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Jason D. Cardone (USPTO)*. (3)_____.

(2) *Keth Dittavong (Reg. No. 44,658)*. (4)_____.

Date of Interview: *16 June 2006*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *1 and 7*.

Identification of prior art discussed: ____.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Applicants' Attorney discussed the 101 and 112 rejections towards spoofing. Examiner disclosed to the Applicants' Attorney an amendment of "TCP" or "protocol" to spoofing would overcome these rejections (See claims in USPN 6701370, 6993584 and 7006480). Applicants' Attorney will respond to the proposed amendment of "TCP spoofing" or "protocol spoofing" by the examiner*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

JASON CARDONE
SUPERVISORY PATENT EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

_____
Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

In step **1320** of FIG. **13**(*e*), hybrid gateway **150** receives an ACK packet over the modem link from hybrid terminal **110**. In step **1322**, hybrid gateway **150** removes from the queue the packet for which the ACK was received. Because an ACK was received, the packet does not need to be re-sent. In the TCP/IP protocol, a packet containing an ACK may or may not contain data. Hybrid gateway **150** edits the received packet to replace the packet's ACK number **1104** with a "spoofed" ACK number in step **1326**. The spoofed ACK number is determined in the same way as the ACK number in step **1318** of FIG. **13**(*d*). When hybrid gateway **150** substitutes the spoofed ACK number **1104** in the packet, it also recalculates the packet's checksum **1106** in step **1326**.

In step **1328**, hybrid gateway **150** forwards the received ACK packet to application server **140**. Application server **140** may simply disregard the packet if it contains an ACK and no data. In another embodiment, hybrid gateway **150** simply discards a packet received from hybrid terminal **110** that contains an ACK, but no data.

If the connection goes down, either explicitly or after a predetermined period of time, hybrid gateway **150** deletes the saved packets for the connection.

d. Summary

In summary, the present invention allows a personal computer to send messages into the Internet using a conventional dial-up link and to download data from the Internet using a high-speed one-way satellite link. In a preferred embodiment, the invention uses a conventional SLIP provider to connect to the Internet and uses a commercial software TCP/IP package that has a standard driver interface. A spoofing protocol compensates for the long propagation delays inherent to satellite communication.

Other embodiments will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with a true scope of the invention being indicated by the following claims.

What is claimed is:

1. An apparatus on the internet, said apparatus comprising:

TCP packet receiving means for receiving a TCP packet sent on the internet from a first apparatus on the internet, the TCP packet having a destination address of a second apparatus on the internet; and

protocol spoofing means for sending a TCP ACK to the first apparatus on the internet in response to said TCP packet receiving means receiving from the internet the TCP packet from the first apparatus on the internet so as to spoof receipt of the TCP packet by the second apparatus on the internet.

2. An apparatus according to claim **1**, further comprising TCP packet sending means for sending the TCP packet to the second apparatus on the internet.

3. An apparatus according to claim **2**, wherein said TCP packet sending means sends the TCP packet to the second apparatus on the internet via a satellite link.

4. An apparatus according to claim **3**, further comprising TCP ACK receiving means for receiving a reply TCP ACK from the second apparatus in response to receipt by the second apparatus on the internet of the TCP packet sent by said TCP packet sending means.

5. An apparatus according to claim **4**, further comprising means for discarding the reply TCP ACK without forwarding the reply TCP ACK to the first apparatus on the internet in a case where the reply TCP ACK does not contain data in its data field.

6. An apparatus according to claim **4**, further comprising modifying means for modifying the reply TCP ACK received from the second apparatus on the internet and for forwarding the modified reply TCP ACK to the first apparatus on the internet, said modifying means comprising means for changing the acknowledgement number of the reply TCP ACK received from the second apparatus on the internet.

7. An apparatus according to claim **4**, wherein said TCP packet sending means sends the TCP packet to the second apparatus on the internet via a satellite link, and

wherein said TCP ACK receiving means receives the reply TCP ACK from the second apparatus on the internet via a link that has a speed that is lower than that of the satellite link.

8. An apparatus according to claim **4**, wherein said TCP packet sending means sends the TCP packet to the second apparatus, and said TCP ACK receiving means receives the reply TCP ACK from the second apparatus on the internet, via different physical links.

9. An apparatus according to claim **1**, wherein an acknowledgment for the TCP packet is discarded before reaching the first apparatus.

10. A method comprising:

a TCP packet receiving step of receiving a TCP packet sent on the internet from a first apparatus on the internet, the TCP packet having a destination address of a second apparatus on the internet; and

a protocol spoofing step of sending a TCP ACK to the first apparatus on the internet in response to said TCP packet receiving means receiving from the internet the TCP packet from the first apparatus on the internet so as to spoof receipt of the TCP packet by the second apparatus on the internet,

wherein said TCP packet receiving step and said protocol spoofing step are effected by an apparatus on the internet other than the first apparatus and the second apparatus.

11. An apparatus on a network, said apparatus comprising:

a TCP packet receiving unit configured to receive a TCP packet sent on the network from a first apparatus on the network, the TCP packet having a destination address of a second apparatus on the network; and

a protocol spoofer configured to send a TCP ACK to the first apparatus on the network in response to said TCP packet receiving unit receiving from the network the TCP packet from the first apparatus on the network so as to spoof receipt of the TCP packet by the second apparatus on the network.

12. An apparatus according to claim **11**, further comprising a TCP packet sending unit configured to send the TCP packet to the second apparatus on the network.

13. An apparatus according to claim **12**, wherein said TCP packet sending unit sends the TCP packet to the second apparatus on the network via a satellite link.

14. An apparatus according to claim **13**, further comprising a TCP ACK receiving unit configured to receive a reply TCP ACK from the second apparatus in response to receipt by the second apparatus on the network of the TCP packet sent by said TCP packet sending unit.

15. An apparatus according to claim **14**, further comprising a TCP ACK discarding unit configured to discard the reply TCP ACK without forwarding the reply TCP ACK to the first apparatus on the network in a case where the reply TCP ACK does not contain data in its data field.

16. An apparatus according to claim **14**, further comprising a TCP ACK modifying unit configured to modify the

2. The method of claim 1, further comprising:
determining the path by applying path selection rules.

3. The method of claim 2, wherein the path selection rules permit failure to N alternate paths, where N is an integer greater than one.

4. The method of claim 1, further comprising:
determining whether the information should be forwarded using an alternate path and
determining which portions of the information should be dropped when one or more paths fail.

5. The method of claim 1, further comprising:
receiving the at least one of path selection parameters and path activation parameters as a data structure from the platform.

6. The method of claim 1, further comprising:
receiving at least one of path selection parameters and path activation parameters from the platform at start-up or when the platform receives updated path selection or path activation parameters.

7. The method of claim 1, further comprising:
applying rules to ensure all packets of information related to the common traffic flow take a common path.

8. The method of claim 1, further comprising:
applying rules which allow packets of information from the same traffic flow to travel via different paths.

9. The method of claim 1, further comprising:
applying multiple path selection or path activation rules using boolean operators.

10. A communication system comprising:
a platform configured to provide performance enhancing functions including one or more of protocol spoofing, local data acknowledgement, data compression and encryption, the platform supplying information and at least one of path selection and path activation parameters;
a path selection/activation apparatus communicating with the platform, the path selection/activation apparatus being configured to receive the information and the at least one of path selection and path activation parameters from the platform, the path selection parameters including parameters for providing selective traffic splitting between a plurality of paths to a second platform that is configured to provide the performance enhancing functions, and the path activation parameters including parameters for mapping the paths to physical ports of the platform, wherein the path selection/activation apparatus has a profile that specifies at least one of path selection and path activation parameters, wherein the communication system is configured to rout the information in accordance with the profile.

11. The communication system of claim 10, wherein the path selection/activation apparatus determines the path by applying path selection rules.

12. The communication system of claim 11, wherein the path selection rules permit failure to N alternate paths, where N is an integer greater than one.

13. The communication system of claim 10, wherein the path selection/activation apparatus determines whether the information should be forwarded using an alternate path and which portions of the information should be dropped when one or more paths fail.

14. The communication system of claim 10, wherein the path selection/activation apparatus receives the at least one of path selection parameters and path activation parameters as a data structure from the platform.

15. The communication system of claim 10, wherein the path selection/activation apparatus receives at least one of path selection parameters and path activation parameters from the platform at start-up or when the platform receives updated path selection or path activation parameters.

16. The communication system of claim 10, wherein the path selection/activation apparatus implements rules to ensure all packets of information related to the common traffic flow take a common path.

17. The communication system of claim 10, wherein the path selection/activation apparatus applies rules which allow packets of information from the same traffic flow to travel via different paths.

18. The communication system of claim 10, wherein the path selection/activation apparatus can apply multiple path selection or path activation rules, combined using boolean operators.

19. A path selection/activation apparatus for routing information in a communication system that includes a platform configured to perform a plurality of performance enhancing functions, the apparatus comprising:
means for receiving the information and at least one of path selection and path activation parameters, the path selection parameters including parameters for providing selective traffic splitting between a plurality of paths to a second platform that is configured to provide the performance enhancing functions including one or more of protocol spoofing. local data acknowledgement, data compression and encryption, and the path activation parameters including parameters for mapping the paths to physical ports of the platform;
means for maintaining a profile containing the at least one of path selection and path activation parameters; and
means for routing the information in accordance with the profile.

20. The path selection/activation apparatus of claim 19, wherein the path selection/activation apparatus determines the path by applying path selection rules.

21. The path selection/activation apparatus of claim 20, wherein the path selection rules permit failure to N alternate paths, wherein N is an integer greater than one.

22. The path selection/activation apparatus of claim 19, wherein the path selection/activation apparatus determines whether the information should be forwarded using an alternate path and which portions of the information should be dropped when one or more paths fail.

23. The path selection/activation apparatus of claim 19, wherein the path selection/activation apparatus receives the at least one of path selection parameters and path activation parameters as a data structure from the platform.

24. The path selection/activation apparatus of claim 19, wherein the path selection/activation apparatus receives at least one of path selection parameters and path activation parameters from the platform at start-up or when the platform receives updated path selection or path activation parameters.

25. The path selection/activation apparatus of claim 19, wherein the path selection/activation apparatus implements rules to ensure all packets of information related to the common traffic flow take a common path.

26. The path selection/activation apparatus of claim 19, wherein the path selection/activation apparatus applies rules which allow packets of information from the same traffic flow to travel via different paths.

27. The path selection/activation apparatus of claim 19, wherein the path selection/activation apparatus can apply multiple path selection or path activation rules, combined using boolean operators.

Hughes

The term "computer-readable medium" as used herein refers to any medium that participates in providing instructions to processor **1305** for execution the PEP functions of the PEP end point **210**. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media includes, for example, optical or magnetic disks, such as storage device **1311**. Volatile media includes dynamic memory, such as main memory **1307**. Transmission media includes coaxial cables, copper wire and fiber optics, including the wires that comprise bus **1303**. Transmission media can also take the form of acoustic or light waves, such as those generated during radio wave and infrared data communications.

Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium, a CD-ROM, any other optical medium, punch cards, paper tape, any other physical medium with patterns of holes, a RAM, a PROM, and EPROM, a FLASH-EPROM, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read.

Various forms of computer readable media may be involved in carrying one or more sequences of one or more instructions to processor **1305** for execution. For example, the instructions may initially be carried on a magnetic disk of a remote computer. The remote computer can load the instructions relating to execution of the PEP functions of the PEP end point **210** into its dynamic memory and send the instructions over a telephone line using a modem. A modem local to computer system **1301** can receive the data on the telephone line and use an infrared transmitter to convert the data to an infrared signal. An infrared detector coupled to bus **1303** can receive the data carried in the infrared signal and place the data on bus **1303**. Bus **1303** carries the data to main memory **1307**, from which processor **1305** retrieves and executes the instructions. The instructions received by main memory **1307** may optionally be stored on storage device **1311** either before or after execution by processor **1305**.

Computer system **1301** also includes one or more communication interfaces **1319** coupled to bus **1303**. Communication interfaces **1319** provide a two-way data communication coupling to network links **1321** and **1322** which are connected to a local area network (LAN) **1323** and a wide area network (WAN) **1324**, respectively. The WAN **1324**, according to one embodiment of the present invention, may be a satellite network. For example, communication interface **1319** may be a network interface card to attach to any packet switched LAN. As another example, communication interface **1319** may be an asymmetrical digital subscriber line (ADSL) card, an integrated services digital network (ISDN) card, a cable modem, or a modem to provide a data communication connection to a corresponding type of telephone line. Wireless links may also be implemented. In any such implementation, communication interface **1319** sends and receives electrical, electromagnetic or optical signals that carry digital data streams representing various types of information.

Network link **1321** typically provides data communication through one or more networks to other data devices. For example, network link **1321** may provide a connection through local area network **1323** to a host computer **1325** or to data equipment operated by an Internet Service Provider (ISP) **1327**. ISP **1327** in turn provides data communication services through the Internet **505**. In addition, LAN **1323** is linked to an intranet **1329**. The intranet **1329**, LAN **1323** and Internet **505** all use electrical, electromagnetic or optical signals that carry digital data streams. The signals through the various networks and the signals on network link **1321** and through communication interface **1319**, which carry the digital data to and from computer system **1301**, are exemplary forms of carrier waves transporting the information.

Computer system **1301** can send messages and receive data, including program code, through the network(s), network link **1321** and communication interface **1319**. In the Internet example, a server **1331** might transmit a requested code for an application program through Internet **505**, ISP **1327**, LAN **1323** and communication interface **1319**.

The received code may be executed by processor **1305** as it is received, and/or stored in storage device **1311**, or other non-volatile storage for later execution. In this manner, computer system **1301** may obtain application code in the form of a carrier wave.

Computer system **1701** can transmit notifications and receive data, including program code, through the network(s), network link **1721** and communication interface **1719**.

The techniques described herein provide several advantages over prior approaches to improving network performance, particularly in a packet switched network such as the Internet. A local PEP end point and a remote PEP end point communicate to optimize the exchange of data through a TCP spoofing functionality. A backbone protocol kernel provides significant flexibility and backbone link tailored performance in support of PEP functionality by implementing a backbone protocol appropriate for a particular backbone link and by supporting different backbone protocols for different backbone links.

Obviously, numerous modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described herein.

What is claimed is:

1. A method for routing information in a communication system, the method comprising:

receiving the information from a platform configured to support performance enhancing functions including protocol spoofing, and receiving backbone connection parameters, wherein a backbone connection apparatus maintains a profile that includes the backbone connection parameters associated with a backbone connection to a peer platform, wherein the backbone connection parameters include information relating to traffic compression over the backbone connection and information relating to the protocol spoofing; and

routing the information over the backbone connection in accordance with the profile.

2. The method of claim **1**, further comprising:

determining one of a plurality of backbone connections including the backbone connection for reaching the peer platform.

3. The method of claim **2**, further comprising:

determining the backbone connection by applying a mapping table.

4. The method of claim **3**, wherein the mapping table maps segment destination identifiers to backbone control blocks.

5. The method of claim **4**, wherein the backbone control blocks store information related to the backbone connection.

6. The method of claim **4**, wherein the mapping table stores pointers to the backbone control blocks.